

## REMARKS

Reconsideration and further examination is respectfully requested. Claims 1-26 are currently pending in this application. The Examiner is thanked for the earlier interview in this application and the careful consideration that has been given to the claims and the prior art. Applicant believes that the amendments to the claims now place the application in condition for allowance. Thus entry of this response is respectfully requested in order to place the application in condition for allowance or appeal.

Rejections under 35 U.S.C. §102(e)

Claims 1 and 14 were rejected under 35 U.S.C. §102(e) as being anticipated by Ginjpalli (&,120,151).

Ginjpalli:

Ginjpalli describes a method for fast label switchover wherein two or more virtual circuit (VC) labels associated with a tunnel label are mapped to a group identifier (GID). The tunnel label is mapped to the GID in a GID table. When the two or more VC labels are to be associated with a new tunnel label, the tunnel label in the GID table is changed to a new tunnel label.

Ginjpalli also describes a link protection process which is ‘configured on a per link basis and the backup link may be preconfigured.’ At column 5, lines 10 –35 Ginjpalli describes:

“...A link is controlled by the end routers associated with that link. When a link fails, link reroute to a backup link can be performed. ...When the LSR 110 recognizes that the link between it and the LSR 115 fails, the LSR 110 may reroute the datagrams intended to be forwarded to the LSR 115 to the LSR 130. This is done using a backup link between the LSR 110 and the LSR 130. Note that this requires pushing a backup label 206 onto the label stack above the tunnel label 106. Except for the backup label 206, the format of the datagram to be transmitted between the LSR 110 and the LSR 115 remains the same when that datagram is forwarded from the LSR

110 to the LSR 130. Thus, the LSR 110 swaps the tunnel label 104 with the tunnel label 106 (as before) but also pushes the backup label 206 on the top of the label stack. The LSR 130 recognizes that the backup label is on top of the label stack, removes it from the label stack, and forwards the datagram to the LSR 115. The LSR 115 receives the identical datagram from the LSR 130 as it would receive from the LSR 110. The process of rerouting from one link to a backup link is referred to as a link protection process. Typically, link protection is configured on a per link basis and the backup link may be preconfigured.

Accordingly, Ginpalli describes a **link** protection system which places a backup tunnel label on top of a datagram prior to forwarding the datagram over the backup link. The backup LSR then strips of the backup tunnel label, and forwards the datagram onto the LSR at the other end of the failed link. As stated by Ginpalli, the protection is configured on a **per link** basis. Applicant respectfully notes that there is no intermediate node between the node 110 and 115, in the ‘primary’ path of Ginpalli.

In contrast, the claimed invention is directed towards a a method “of providing backup resources for a primary label switched path (LSP) in a label switching network, *the primary LSP having at least a portion for transmitting data packets containing a label stack from a first label switching node to a second label switching node, said portion including at least one intermediate label switching node between the first and second nodes ...*” Thus the present invention is not restricted to a single link path, but explicitly claims a label switched path that includes an intermediate node. In fact, as described in Applicant’s disclosure, the present invention seeks to address the problems of the prior art label switched paths which traverse intermediate nodes, which is described at page 2 of Applicant’s specification as:

“... The backup LSP may also span more than two successive links of the protected LSP. For example, in the previous case, the two LSPs may merge in router D. This may provide the path recovery function in cases where the failure detected by B occurs in router C. However, it is inoperative whenever backup LSP bypasses a LSR which performs some action on the MPLS label stack (pushing, popping, swapping). In our example, if C changes the label stack, D will not get the packets with the correct labels along the backup LSP and therefore will not switch or process them as required...”

Independent claims 1 and 14 of the present invention have been amended to more clearly recite that the transformation includes transformations to the label stack that are performed by the intermediate node. For example, Claims 1 and 14, as amended, now recites that “...*the transformation including label stack manipulations performed by the at least one intermediate label switching node* ...” No such structure is shown or suggested by Ginjpalli, which provides link protection merely on a per link basis.

Accordingly, for at least the reason that Ginjpalli fails to disclose or suggest every limitation of claims 1 and 14, it is requested that the rejection be withdrawn.

Rejections under 35 U.S.C. §103(a)

Claims 1-26:

Claims 1-26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lee (6,904,018) in view of Ginjpalli.

In order to support a rejection under 35 U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Applicants respectfully submit that the combination of Lee and Chuah fails to satisfy this burden for at least the following reasons.

1. Combination neither discloses nor suggests the invention of claims 1-26

Lee:

Lee (US 6,904,018) discloses a method for high speed rerouting in a MPLS network. This method more particularly relates to the protection and recovering of a multipoint to point label switch path or LSP, by contrast with a point to point LSP (e.g. col.2, 1.56-61 and col.3, 1.44-47).

According to the method disclosed by Lee, a backup LSP comprising a point to multipoint reverse anycast tree is set and a traffic stream is transferred, at a LSR sensed a failure, through the reverse anycast tree by looping back the traffic stream in a reverse direction when a failure occurs in a link in the MPLS network (see claim 1).

Lee describes, at column 3, lines 62-67:

“...To achieve the above object, there is provided a method for high speed rerouting in a multi protocol label switching (MPLS) network, the method comprising the steps of controlling a traffic stream to flow in a reverse direction in a point where node or link failure occurs by using a backup Label Switched Path (LSP) comprising an Explicitly Routed (ER) LSP having a reverse tree of a protected multipoint-to-point LSP and an ingress LSR through an egress LSR.”

Thus Lee describes a method which uses Explicit Routing to identify a reverse path.

Applicants note that no mention is made, in Lee of transforming a label stack to provide consistency between a first label stack and a second label stack, as now more clearly recited in Applicant's claimed invention.

The Examiner states, at page 3 of the office action:

“... It would have been obvious to use Ginpalli's label stacks and label stack transformations in Lees system in order to quickly recover from node failure with little delay and only slight stack modification...”

Applicants' respectfully submit that the solutions provided by Lee and by Ginpalli do nothing to overcome the problems of the prior art, as they do not perform the steps of the claimed invention of “...configuring at least one node of the backup LSP to process the label stack of any packet transmitted along the backup LSP to apply the same transformation to the label stack on

the backup LSP as applied on said portion of the primary LSP so that the label stack received from the backup LSP at an input to the second label switching node corresponds to the label stack received from the portion of the primary LSP at the input of the second label switching node....” where the transformation includes label stack manipulations performed by intermediate nodes.

Although the Examiner states, at page 4 of the office action, that Lee teaches ‘the same transformation as said transformation of the label of a packet along said portion of the primary LSP....’ Applicant respectfully submits that the amendments to the claims clearly distinguish over the Examiner’s previous interpretation of ‘transformation’, as provided at page 2 of the office action.

Applicants claims clearly distinguish over the mere changing of router identifier that is provided in Lee. For example, independent claim 1 now recites the step of “...configuring at least one node of the backup LSP to transform the label stack of any packet transmitted along the backup LSP by applying the same transformation to the label stack on the backup LSP as applied on said portion of the primary LSP so that the label stack received from the backup LSP at an input to the second label switching node corresponds to the label stack received from the portion of the primary LSP at the input of the second label switching node...” where the transformation includes label stack manipulations by intermediate nodes. Neither Lee nor Ginpalli, alone or in combination, describe or suggest such a limitation, and as such claim 1 is patentably distinct over the combination of references, and it is requested that the rejection be withdrawn. Independent claim 14 includes similar limitations and is therefore allowable for reasons similar to those provided for claim 1.

Dependent claims 2-13 serve to add further patentable limitations to claim 1 and dependent claims 15-27 serve to add further patentable limitations to claim 14. For example, claims 2 and 15 now each recite that the transformations include label swap and label popping manipulations. No such structure is shown by the combination of Lee and Ginjpalli. In addition, claims 2-13 and 15-27 are allowable for at least the reason that they depend from an allowable parent claim, as described above.

## 2. No motivation for the modification suggested by the Examiner

There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)..."

"...The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)..."

Although the Examiner states that 'It would have been obvious to use Ginjpalli's label stacks and label stack transformations in Lees system in order to quickly recover from node failure with little delay and only slight stack modification' Applicant would respectfully submit that Ginjpalli's solution, which is based on configuring backup protection 'on a per link basis' (Ginjpalli, col. 5, lines 33-34) is an entirely different architecture than the reverse path scheme proposed by Lee. It is unclear to the Applicant how the two inventions could be combined to provide a usable solution.

In addition, Applicants note that the motivation required is to modify the references *in the particular manner claimed*. Applicant acknowledges that the claims have been amended to

more particularly describe the step of transforming as including label stack manipulations by intermediate nodes, and submit that there is no motivation, beyond that found in Applicant's specification, to modify the Lee and Ginpalli references to meet the limitations of the claims.

As described in Dembiczak: "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." Dembiczak, 175 F.3d at 999; see also Ruiz, 234 F.3d at 665 (explaining that the temptation to engage in impermissible hindsight is especially strong with seemingly simple mechanical inventions). This is because "[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight." Dembiczak, 175 F.3d at 999. Therefore, we have consistently held that a person of ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but some motivation to combine the prior art teachings *in the particular manner claimed*. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) ("Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed."); *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed."). *Teleflex v. KSR International*, 04-1152 (CAFC 2005

Accordingly, for at least the reason that there does not appear to be sufficient motivation to modify the references in the particular manner needed to meet the limitations of the claims, it is respectfully requested that the rejection be withdrawn.

Conclusion

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Applicants' Attorney at the number listed below so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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